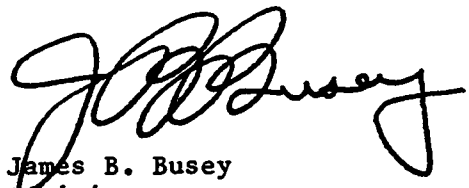
1. PURPOSE. This change transmits revised changes to Chapter 4, Air Traffic Control, and Appendix 2, Summary of Establishment and Discontinuance Criteria.

2. EXPLANATION OF CHANGE. This change provides establishment criteria for three windshear detection systems--the low-level windshear alert system (LLWAS), terminal doppler weather radar (TDWR), and airport surveillance radar modified for windshear detection. The basis of the proposed criteria is an integrated life-cycle benefit-cost analysis outlined in Report Number FAA-APO-90-13, "Establishment Criteria For Integrated Windshear Detection Systems: Low-Level Windshear Alert System (LLWAS), Terminal Doppler Weather Radar (TDWR), and Modified Airport Surveillance Radar." Copies of this report are available from APO-220.

3. DISPOSITION OF TRANSMITTAL. After filing the attached pages, this change transmittal should be retained.

PAGE CONTROL CHART

Remove Pages	Dated	Insert Pages	Dated
iii	10/20/89	iii	10/20/89
iv	02/05/91	iv	4/29/91
55 and 56 (thru 60)	11/15/84	55	11/15/84
		56 and 57 (thru 60)	4/29/91
Appendix 2	11/15/84	Appendix 2	
13 (and 14)		13	11/15/84
		14	4/29/91
		15 (and 16)	4/29/91



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above criteria will be evaluated by the computerized benefit/cost subroutine developed in Report Number FAA-APO-83-6. If a benefit/cost ratio of 1.0 or greater (for establishment) or less than .45 (for discontinuance) is computed, the airport becomes a candidate. The subroutine requires the following supplemental site-specific data:

(a) System acquisition and installation costs (FAA Form 2500-40, F&E Cost Estimate Summary).

(b) Whether or not optional longline communications are proposed, and if required, the annual cost.

d. Sensor Configuration. The typical AWOS configuration includes sensors for wind direction and speed, temperature, dewpoint, altimeter, ceiling, visibility, and liquid precipitation. However, AWOS installations may include additional or fewer sensors. For example, a cloud height (ceiling) sensor may not be justified at certain locations in close proximity to another observation site, while additional sensors, such as for freezing precipitation and thunderstorms, may be added if cost effective.

e. Non-Federal AWOS. There will be no takeover of AWOS purchased and installed by parties other than the Federal Government. This provision is an exception to the general policy of paragraph 8 which provides eligibility for inclusion of non-Federal terminal facilities in the National Airspace System with FAA assumption of ownership, operation, maintenance, and logistic support.

fields of specialization on a part-time rotating basis. This is reason to consider decombining certain air traffic control facilities.

b. Policy. Terminal air traffic control facilities shall not be administratively combined.

c. Separation. All combined facilities shall be separated except as follows:

(1) Tower-RAPCON/RATCC facilities at specific locations designated by the regional administrator as exceptions to this policy.

(2) One tower of a three-facility complex should be operationally and administratively separated. The remaining tower-RAPCON/RATCC combinations should be reevaluated as in paragraph 47c(1). No further "tri-complexes" are authorized.

(3) The station functions of a Combined Station/Tower (CS/T) combined with a RAPCON/RATCC shall be physically separated, even though the tower-RAPCON/RATCC combination continues as an exception as in paragraph 47c(1).

*48. LOW-LEVEL WINDSHEAR ALERT SYSTEM (LLWAS).

a. Establishment. Provided that a site does not qualify for more than one system under paragraphs 48, 49, 50, and 51, an FAA-towered airport qualifies as an establishment candidate for LLWAS if the present value of incremental life-cycle benefits exceeds the present value of incremental life-cycle costs, using the benefit-cost methodology outlined in Report Number FAA-APO-90-13, "Establishment Criteria For Integrated Windshear Detection Systems: Low-Level Windshear Alert System (LLWAS), Terminal Doppler Weather Radar (TDWR), and Modified Airport Surveillance Radar." If the site meets the criteria for more than one system, then the one with the highest (positive) net present value is the qualifying system.

b. Discontinuance. Reserved. *

"Establishment Criteria For Integrated Windshear Detection Systems: Low-Level Windshear Alert System (LLWAS), Terminal Doppler Weather Radar (TDWR), and Modified Airport Surveillance Radar." If the site meets the criteria for more than one system, then the one with the highest (positive) net present value is the qualifying system.

b. Discontinuance. Reserved.

50. AIRPORT SURVEILLANCE RADAR (ASR) MODIFICATION FOR WINDSHEAR DETECTION.

a. Establishment. Provided that a site does not qualify for more than one system under paragraphs 48, 49, 50, and 51, an ASR site qualifies as a candidate for ASR modification for wind shear detection if the present value of incremental life-cycle benefits exceeds the present value of incremental life-cycle costs, using the benefit-cost methodology outlined in Report Number FAA-APO-90-13, "Establishment Criteria For Integrated Windshear Detection Systems: Low-Level Windshear Alert System (LLWAS), Terminal Doppler Weather Radar (TDWR), and Modified Airport Surveillance Radar." If the site meets the criteria for more than one system, then the one with the highest (positive) net present value is the qualifying system.

b. Discontinuance. Reserved.

51. INTEGRATED WINDSHEAR DETECTION SYSTEMS: LLWAS, TDWR AND MODIFIED ASR.

a. Establishment. Provided that a site does not qualify for more than one system under paragraphs 48, 49, 50, and 51, an FAA-towered airport qualifies as an establishment candidate for an integrated windshear detection system if the present value of incremental life-cycle benefits exceeds the present value of incremental life-cycle costs, using the benefit-cost methodology outlined in Report Number FAA-APO-90-13, "Establishment Criteria For Integrated Windshear Detection Systems: Low-Level Windshear Alert System (LLWAS), Terminal Doppler Weather Radar (TDWR), and Modified Airport Surveillance Radar." If the site meets the criteria for more than one system, then the one with the highest (positive) net present value is the qualifying system.

b. Discontinuance. Reserved. *

FIGURE 3. SUMMARY OF ESTABLISHMENT AND DISCONTINUANCE CRITERIA FOR CHAPTER 4, AIR TRAFFIC CONTROL (CONTINUED)

Facility or Service	Establishment	Discontinuance	Additional or Improv
Automated Weather Observing System at FAA towered airport, Paragraph 46a.	Automatically qualifies if FAA is responsible for the weather observation function. Priority given to FAA ATCT's with part-time operating hours, followed by full-time FAA ATCT's.	If tower is decommissioned and location meets AWOS discontinuance criteria for non-towered airport.	
Automated Weather Observing System at automated flight service station, Paragraph 46b.	Automatically qualifies if facility is obligated to take weather observations.	If automated flight service station is decommissioned and location meets discontinuance criteria for non-towered airport.	
Automated Weather Observing System at non-Federal towered, or ATCT discontinuance candidate airport, Paragraph 46c.	Ratio value of 1.0 or greater.	Ratio value of less than 0.45.	

FIGURE 3. SUMMARY OF ESTABLISHMENT AND DISCONTINUANCE CRITERIA FOR CHAPTER 4, AIR TRAFFIC CONTROL (CONTINUED)

Facility or Service	Establishment	Discontinuance	Additional Facilities or Improvements
Low-Level Windshear Alert System, Paragraph 48.	Net present value of zero or greater and does not also qualify under paragraphs 49, 50, or 51. If more than one system meets the criteria, then the one with the highest (positive) net present value is the qualifying system.	None	None
Terminal Doppler Weather Radar, Paragraph 49.	Net present value of zero or greater and does not also qualify under paragraphs 48, 50, or 51. If more than one system meets the criteria, then the one with the highest (positive) net present value is the qualifying system.	None	None

FIGURE 3. SUMMARY OF ESTABLISHMENT AND DISCONTINUANCE CRITERIA FOR CHAPTER 4, AIR TRAFFIC CONTROL (CONTINUED)

Facility or Service	Establishment	Discontinuance	Additional Facilities or Improvements
Airport Surveillance Radar Modification for Windshear, Paragraph 50.	Net present value of zero or greater and does not also qualify under paragraphs 48, 49, or 51. If more than one system meets the criteria, then the one with the highest (positive) net present value is the qualifying system.	None	None
Integrated Windshear Detection Systems, Paragraph 51.	Net present value of zero or greater and does not also qualify under paragraphs 48, 49, or 50. If more than one system meets the criteria, then the one with the highest (positive) net present value is the qualifying system.	None	None